

R with price 2

PHYSICAL ENQUIRY
INTO THE
POWERS AND PROPERTIES
OF
S P I R I T,
AND,
HOW FAR BY
ANALOGICAL INFERENCES
RESULTING FROM
EXPERIMENTAL AND NATURAL
PHŒNOMENA,
THE
HUMAN INTELLECT
MAY BE
ENABLED TO ATTAIN
TO ANY
RATIONAL CONCEPTION
OF
OMNIPOTENCE.

Quæ si ut animis, sic oculis videre possemus.

CICERO.

PHYSICAL ENQUIRY
TOWERS AND PROPERTIES

HOW TAKEN
NATURAL INTERESTS
EXPERIMENTAL AND NATURAL

A glance even in the most late
matters of the world is what of all
others I think most likely to delude
I most sincerely wish that those
Hints which I gave Years ago
sketched out upon the subject of
Spirit had long ere this Time
prompted some Lover of Physics
better qualified than I pretend to



AS any just Imputation of Arrogance, even in the most trite matters of Science, is what, of all others, I should be sorry to deserve. I most sincerely wish that those Hints which I many Years ago sketched out upon the Subject of Spirit, had long e'er this Time prompted some Lover of Physics, better qualified than I pretend to be,

be, to pursue this very interesting Enquiry.

Nothing, certainly is more universal than the Belief of the Deity. Yet, as I am persuaded that, (independent of the antient Prevalence of Epicurean Doctrines) the Confidence of many modern Theists has been too often effectually assailed by atheistical Arguments, from which a very slender Portion of Physical Knowledge had secured them. I am inclined to trust that until some more effectual Effort shall be made, the following Sheets may not prove entirely useless.

The utmost they aspire at, is to examine how far, by the Irradiations

tions of experimental Knowledge, metaphysical Notions are capable of being actually illumined, and if those universal Deductions from obvious Natural Phenomena which have every where enforced an *implicit* belief in Omnipotence, may not (by uniting the discoveries of Physical Observation, to plain Sense) encrease our mere Belief, even to *rational* Conviction.

But, what has more immediately urged me to this Enquiry, is, a most firm Persuasion that the exclusive benefit of rational Intellect was, for other purposes, imparted to us, than for Discoveries, solely of convenience or entertainment.

That in several Parts of this short
tract

Tract it has been my zealous En-
deavour to establish this Maxim;
I here most solemnly assert; with
what success, I very sincerely sub-
mit to the disprejudiced Reader.

26 MR 59

A

PHYSICAL ENQUIRY
INTO THE

PROPERTIES OF SPIRIT, &c.

TO have, with many other Writers, clearly demonstrated the Existence of the Deity, and to have established by the fairest Inferences, drawn from the permanent and incontrovertible Testimony of his stupendous Works, not only infallible Precepts for our Conduct in this probatory Life, but likewise a moral certainty of future Rewards, for those who act in due Conformity to them. Far from being the Enterprize of Arrogance, appears literally to me, the expressly destined Application of that noble Faculty, by which, alone, the human Race is, in any superior Degree distinguished: and which must

have been, of force, adequately proportioned in the imposed Task.

It does not, however, follow, that an Enquiry into the *actual* Nature of the Deity, can be undertaken with the most distant Prospect of Success. And, however prompted we may be to such Enquiry, by the Curiosity inherent in our natural Dispositions, Problems of this exalted kind, are evidently as much above our Reach, as their Solution, if accidentally approaching to Truth, would, yet, exceed all possibility of rational Demonstration.

But, as the eloquent and enlightened *Cicero* has, without scruple deemed it consistent with Decency (if not to decide in Favor of any) at least to State, in his Book *de Natura Deorum*, the several Opinions of the most renowned Sages of Antiquity, on that sublime Subject : and, under the Characters of *Velleus* the Epicurean, *Balbus* the Stoic, and *Cotta* the Academician, freely to debate the respective Merits of each Hypothesis. And at a Period too, when, though far excelling
us

us, in many Arts and Sciences, they were yet! unassisted by the advantage of modern Discoveries, which could not fail of having furnished Means of conveying clearer Ideas of their respective Systems. It may not be uninteresting to examine how far, by the Assistance of these new Discoveries, many of the above Systems, which (though delivered by Men of undoubted Sense and Reputation) seem so diametrically at variance, may be yet reconciled, not only to possibility, but in some Respects, even, to each other.

Far from attempting any thing even resembling a Definition of such truly abstruse Matters as *Infinity* and *Eternity*, which indeed, seem but to deride the Investigation of limited Intellects; it better suits our manifest inadequacy to such baffling Enquiries, modestly to leave them as they stand. But, for Omniscience, Omnipresence, and even Omnipotence, they are Ideas, to which, though vast! the human Intellect, limited as it is, appears

pears yet (with the Aid of these * Discoveries) in some Degree competent.

The Aim then of this interesting Discussion, is, no vain Endeavor to penetrate or to describe the Essence of the Deity, or even to conjecture the *actual* Means that were employed for the accomplishment, and continue to be unremittingly exerted for the maintenance of this wondrous Fabric:—on the contrary, the very utmost it proposes, or deems within the Reach of Possibility, is but fairly, and Physically to illustrate those demonstrable Properties in † Spirit, which I ever thought fully adequate to the furnishing a *rational* Conception of their being (when employed as Agents of the Deity) susceptible of such coercive Organization, as would amply fulfill the extensive Object of even the above wondrous attributes.

It

* I am content to confine these Discoveries to the Air Pump, the Steam Engine, Electricity, the artificial Magnet, the explosive Powers of Nitre, and the astonishingly active Progress of Light.

† By this general Term I mean every thing that is, like Air, impalpable and pervious.

It may be proper to observe that, as I have already treated of these Properties, some Repetition of the same Arguments will be, not only unavoidable, but perhaps more clear and more compendious than repeated Referances to a former Tract.

If Analogy is, in the Solution of even mathematical Problems, not barely admissible, but often conclusive; how infinitely must, what the mere Calculations of Men, and their trite Experiments evince, be exceeded by that unlimited Being, to whom, as their Creator, all things are, of Necessity subservient.—Analogy can be, *therefore*, never more securely depended on, than in the present Instance. And, as it will besides, furnish Ideas, easier to be coped with by a limited Imagination, than those stupendous ones, whose Explanation, or at least, whose *rational* Conception it is intended to facilitate, I am, I think justly entitled to avail myself of its expediting Assistance.

Had a more extensive Meaning been, generally,

generally, annexed to the Term Organization, it would probably, have long since engaged and enabled the speculative part of Mankind, to throw far clearer Lights upon the Subject of this intricate Enquiry, than it appears yet to have received.—The possible Modes of Organism are in Fact as infinite, as the various Combinations of Matter and of Spirit, or indeed of both, for there is, evidently, in their respective Natures, no Averseness to Union.

The specific Qualities both of Spirit and of Matter, however, widely differing in activity, are far from being, any of them, inert. And, to deem, even elementary Matter (if I may so call its minutest Detail) unorganized, is so little worthy of an enlightened Philosopher, that it would disgrace any Man of even common Physical Experience.

It may be yet right to point out a few of the most striking Specimens,—can the Attractive Quality, for Instance, inherent (under certain Circumstances) in the smallest filing of Iron,—the Volatility and almost

almost inexhaustibly diffusive Property of the minutest Particle of Musk,—or the powerful Effects of a single Grain of Arsenic upon metallic Bodies, fairly be ascribable to any other Cause than their respective Modes of active Organism.

In short, Attraction, Repulsion, Volatility, Inflammability, and Elasticity (with some of which Properties almost every Particle of Matter or of Spirit is, in a degree endued) are too *extrinsically* active, and too familiar to every Physically speculative Mind, to be any further insisted on.

That the very Air we breath is demonstrably organized (though from its transparent Nature it be incapable of reflecting Light, and by consequence * invisible) the well known and powerful Effects

* So we are accustomed to suppose it, though when considered in its purest and most extensive State, it is manifestly Azure: as every Man must admit, who but casts his Eye on an unclouded Atmosphere. Just indeed as the Colour of any lightly tinged Liquid, which, though scarcely discernable in a small Body of it, is yet sufficiently apparent if its Volume be much increased.

Effects of its almost infinitely expansive *Tendency*, with its ready Submission to Compressure, not only, evince, but further, prompt us to conclude that its Mode of Organism is perhaps analogous to the Idea of an infinitely elastic and transparent Sponge: such Texture being, of all others, best calculated for the accomplishment of all its different Attributes, but more particularly its extreme Aptitude to Impregnation, not only by Scents and Liquids, but, by the most Solid and ponderous Bodies, when sufficiently reduced either by common Attrition, or by chemical Process. How incomparably more so then! when elaborated by the coercive Agents of the Deity.

Of which I shall, I trust, be able in the course of this Essay to convey (however inadequate to the actual Fact,) at least some intelligible Idea.

Though by a comparative Mode of Speech, many Substances are called Inert, nothing totally devoid of Activity Exists. Nothing, at least, that we may be fairly said to know. The most apparently
inert

inert * Body has, if heavier than atmospheric Air, a positive Tendency to the Centre of the Earth, if lighter, its *Tendency* to the Regions of Rarefaction is as unequivocal (although it, *in truth*, operates, only by giving Place to what is specifically heavier than itself) but, though I should deem it impossible for any thing absolutely active to be unorganized: yet, whether *elemental* Organization be a naturally inherent Quality. I will rather doubt, than attempt to examine, as it is an Enquiry so evidently surpassing the demonstrative Faculties of human Intellect, that it better consists with Reason to decline it: and indeed with Decency. For, though such Enquiry could be no how said to contract our Ideas of a Power which at any Rate far exceeds any Conception that we can form of it, yet, would it imply, in some sort, an arrogant Attempt to

* I am here reduced to call Spirit Body, as indeed in common Discourse, we justly say a Body, even, of Light.

limit, nay to subtract from the many Wondrous Works of God, that, which if admitted, though the first, was manifestly the most extensive, Providential, and Astonishing.

I would then, rather combat, in some Degree, that bold, anticreative Axiom,—*ex nihilo nihil fit*, for, since, whatever is unorganized, must be in that State, unconnectible and useless; so, that which is useless, is surely as nothing: our Ideas of Omnipotence should, *therefore*, be unqualified by whatever limiting Axiom, and I would modestly conclude the Deity to have been the Author and virtual Creator of every existing Thing, and that the dispersed Materials of original Element under one uniform and totally inert Species (which, for Convenience we will call Ether) had, from all Eternity floated in that vast Magazine of the Universe which (though our Mind is lost in the Idea) we term Infinite: and that, when they were first called forth, or more properly, selected and

and * compelled by the coercive Spirit of the Deity, they were, previous to their final Destination invested, in respective Proportions, with that requisitely varied Organism, which I have presumed to call Elementary. As Letters, though likewise the mere Elements of Writing, have been, yet, themselves the elaborate and progressive Contrivance of inventive Genius.

Before I proceed to that more complicated Organism of which the foregoing elementary Classes were but preparatory, I hope I may be indulged in adding a few general Opinions of my own, to the numerous Catalogue of Hypothetical Conjectures that have been already hazarded on the internal Conformation of the Terrestrial Globe.

I will then presume that, consonantly to the known *centrifugal* Laws, and to that Precision and Economy which manifestly pervade the whole Fabric of the Universe, it is hollow to its Centre.—

B

That

* To have obeyed a mere *Fiat*, they must have been already organized and animated.

That the internal, or concave Surface of its enormous Shell, is probably the Scene of that stupendous Mechanism which first caused and unremittingly continues to maintain its rotatory Motion.—For its Texture, and the Material that this Shell is composed of, I will only say that, from the forcible and diametrically opposite Pressures which it sustains, it must be necessarily, of almost adamantine hardness and solidity.—That its external or convex Surface pointedly analogous (in its *counter-action* to the other) to the opposite Pole of a powerful Magnet, is likewise as strongly endued with an attractive Faculty, which, though on a quite different * Principle, conveys or rather excites a *centripetal* Tendency in every Material whatever, in a Degree proportioned to the distance, and to the Volume and solid Contents of the respective Substances.—That this powerful Tendency is implanted likewise, in the Material itself, and (as demon-

* The internal, I presume, acts merely on *centrifugal* Principles: the external on that of *Gravity* or *Attraction*.

demonstrated by Sir Isaac Newton,) in *adverse Poles*, however minute the Instance. But that the Effect, (as relating to its respective Orb) being in a Direction parallel to the Centre, has *therefore* obtained the Appellation and the Idea we annex to Gravity: and has served (by the conglutinating and other Qualities of the several Substances previously organized and destined by the Deity to their respective Intentions) at once, by counteracting its violent Centrifugal Tendency, both to consolidate and keep the Shell together, and, effectually to form and Cement that superficial incrustation whose fertile Surface we Inhabit and call the Earth. Which, under the Equinoctial Zone, is probably some Miles in Thickness, though I presume far thinner at the Poles, from its incomparably less rotatory Velocity in those intensely Cold and unapproachable Regions.

The atmospherical Air we are encompassed with, far from being the Cause of this centripetal Tendency (to which, by obvious Inferences resulting from the most

simple calculations it is exceedingly insufficient) Is itself acted on like every other Substance, in due proportion to its Distance and Specific gravity, which I make no doubt is different at different Altitudes, merely from the respective heterogeneous Substances with which it happens to have been impregnated.—That it is not only stationary, but, so intimately connected with the Earth as to form to every Intent and Purpose a most essential Part of it —That if it were otherwise, it must be necessarily left, or thrown off by the Earth's Violent centrifugal Action, its Velocity being, *in that respect*, equal, at the Surface, to more than 1000 miles an hour, and its *progressive* Velocity, 58000.—But, that the circumambient Air is actually attracted to the Centre, and Stationary. the Flight of Birds evidently demonstrates, and still more, our late Balloon Experiments, when travelling at the vast height they do in contrary Direction to the Earth's Progress.—That our atmospherical Air, though capable of wondrous Rarefaction, is probably from its
 Organism,

Organism, totally different from what we agree to call pure * Ether, with which, while in that State, it can (for good Reasons I presume) in no sort coalesce.—That as the Activity it is possessed of, by elastic Organism, qualifies it for an Elementary Ingredient ; perhaps, universally requisite, so, we experimentally find it to be the *sine quâ non* to the Conveyance of Sound, the Action of Fire, and indeed the *Pobulum* of all animal and vegetable Existence.

The Term Organization being strictly applicable to whatever has been purposely composed for any possible Use, pure Ether, of which we can have no competent Idea, appears to be the only Object that is excluded from this comprehensive Acception of it. And indeed from all *Physical Existence*, unless to the sole Contemplations of that all-powerful Being, from whose creative Exertions so

B 3

vast

* In Contemplation of *Infinity*, we may well suppose the unappropriated and still unorganized Ether, abundantly to exceed even the unnumbered Worlds to whose entire Fabric it has been made so amply to contribute.

vast a Portion of these else *useless* Materials first received it, and from that Minute became Elements, respectively endued with such Forms and Qualities as were deemed requisite, both, to the Construction of those wondrous Agents employed by the Deity, and to the Fabrication and Maintenance of that Stupendous Work we call the Universe.

It is by Suggestions resulting from a View of the four great component Classes of this extensive whole, that we may, I trust, be furnished with Ideas of that more exalted Species of Organism, which is the principle Subject of this Enquiry. —They are, I think, commonly divided into the Material, the Vegetable, the merely Animal, and the Rational.

But though this Division is, in a general Sense, sufficiently unequivocal, and, if the most distinguished Specimens of the higher Class, be brought into Comparison with the lowest of the Second, the Distinction is too obviously apparent, to admit of, even a Doubt; yet, if we reverse the Proposition, and compare the highest
of

of the second Class with the lowest Specimens of the First, and proceed in like Manner with each of the four Classes, it will be, I fear, as difficult to draw any positive Line of Discrimination, as it would between those indivisible Shades of Difference, which so perfectly connect the undiscernable Extremes of the neighbour Colours refracted through a Prism. To which it is impossible, in either State of the Proposition to be more pointedly Analogous.

As each of the above Classes, in their respective nearness of relation, has been already elaborately investigated, and that, by Writers far better qualified for the several specific Enquiries, than I pretend to be; a re-examination of the whole would be superfluous, and indeed, inconsistent with the Plan of this little Essay. But, as the two first Divisions are more immediately connected with the Object we have in View, it may not be improper to bestow on them, at least, some general Observations.

I will therefore proceed with that of
Man,

Man, to whose distinguished Lot, Reason is asserted to have exclusively fallen.— That this, in general is Fact, I have, myself, repeatedly admitted. But, that there is in the human Species, perhaps, as great Diversity, as in any other Division of the Animal Creation, I am, I confess, with many others fully persuaded. And further, that, were Rationality the only Criterion to be depended on for the ascertainment of his Specific Identity, the Hottentot or Caffre would, I fear, in that Line, very little surpass his almost reasoning Neighbour, the Elephant. Yet, are we fully justified in believing that the Caffre, brutish as he is, may be, comparatively, an enlightened Being: if we but reflect on the Savage Inhabitants of that torrid Tract of Africa, extending from the tenth Degree of Southern Latitude, to ten North of the Equator, and Eastward, to the swampy Marshes and enormous Lake of Zara: a Space, including, likewise, the Lunar Mountains, whose inaccessible Heights imply such intenseness of Cold, as to unite, between their Summits and
their

their Base, not only the extreams of Heat and Cold, but, probably every different Degree of Climate existing from the Equator, even to the Poles.

This critical Tract of Country considered, (which, by its varied Gradations of Heat and Cold, of Damp and Dry, seems respectively adapted to every possible Animal Production) I am far from disbelieving even the most marvelous Relations of the adventurous few who have explored the Accessible Parts of this dangerous Region.—My only Doubt, respecting the *mule* Savages both aquatic and terrestrial that we are told of, is not, if they were actually seen or faithfully described, but, whether they were really an *established Species*, whether they were regularly engendered, in short, if they were not *Mules*.

And here, as an unanswerable Refutation of the Atheistical Doctrine of Chance, I cannot but remark and reverence that truly providential Precaution by which the permanent Identity of Species is preserved, throughout the innumerably varied
animal

animal Creation.—The ever consistent Deity wisely foreseeing the irresistible Effects of that *Master-Passion* which he had universally implanted for the Preservation and Encrease of all. Has (in effectual Preclusion of that unlimited Irregularity which must have otherwise attended it) irrevocably entailed the compleatest inability of Procreation, on *Mules* of every Kind.

That every considerable Lake which I have seen in different parts of the Continent, was inhabited by some aquatic Animal peculiar to itself, I can in Conscience Assert; and as we are told, that in a River flowing from this wonderful Lake of Zara, an Animal is found which is, from the Waist upwards, nearly of the human Form, and that it is, as Father *Merolla* reports (who had often eat of it) commonly Sold to the Savage Natives, under the Portuguese Name of *Peix Molher* or Woman's Flesh: and, as nothing is more certain than that the Pongo or Collosseal Oran-outang (which is often more than eight Feet high, and, frequently

ly seen strolling, even to the Coast of *Angola*) differs outwardly from Man in nothing but the want of Speech and a better natural Cloathing: and as their fondness for the Women of that Country is sufficiently established by their omitting no opportunity to ravish them, when Accident puts it in their Power. How far the Divine Precaution above alluded to, may be extended to this *Cross*, can be determined only by actual Experience. But, that *Mute* Animals of perfectly human figure, which were shewn to the Missionary *Francis di Pavia*, in the Lake of *Zara* (who 'till then disbelieved the Fact) might well be of the Mule Kind, and engendered between the *Pongo*, and the above Mermaids, appears by no Means unlikely, particularly, if their natural Fondness for the real Women of that Country, together with their *supposed* Irrationallity, be considered.—And, that they should when born, often emerge (as they are said to do) from their aquatic Element, does but consist with the inherent Nature of at least, their
Male

Male Parent. And still more, if we reflect on the gradual habituation that the immense Swamps surrounding this Lake, would, not barely prompt and facilitate, but often, accidentally force them to. For, the Newt or Eft, which is aquatic, or at best Amphibious in Middlesex, emerges in the hilly parts of Kent, and actually commencing Lizard, inhabits the warm dry Walls of that more Southern County, as I have myself remarked, at Cale Hill, not many Miles from Canterbury.

That neither Figure nor Reason can *alone* constitute a human Being, the Elephant, and the Pongo (if he be not one) in opposition to their savage Neighbours, sufficiently evince.—That the Idea of a human Being, cannot be annexed to Speech alone, many of the feathered Bipeds amply prove. And, if we may credit Prince Maurice's Account of the famous Brazillian Parot, as related from the Prince's own Mouth by Sir William Temple; neither can we annex that Idea to the Gift of Speech
when

when accompanied with even undoubted Reason.—That the Prince, notwithstanding all his incredulous Precautions, might be, yet, deceived by the Collusion of his Interpreters (for he purposely employed two) is certainly possible. Tho' I cannot well conceive to what good End; for, the Reputation of the Bird had been long established. And that they should have risked so wanton and unprofitable a Deception on a Person of the Princes high Rank and Power, is surely very unlikely.

From the Evidence of these Facts, even as they stand, we may I think conclude that, respecting those possessed of *Rationality*, no discriminating Line can possibly be drawn.—And, for the *Identity* of the human Species, we are, I fear, reduced to one only Criterion, *that* resulting from the eternal Law respecting Mules.—How far it may extend in the human Instance, can be, probably, nowhere so well ascertained as in this torrid Tract of Africa. Where, the Lunar Mountains, with the varied Climates that
they

they furnish, the savage Inhabitants, the Existence of the Pongo, and the Produce of this astonishing Lake and its swampy Marshes, all jointly concur to the Production of every possible Animal Phæ-nomenon.—That so luxuriant a Tract abounds in *Lusus Naturæ* of almost every denomination, I cannot hesitate to believe. But, that such Confusion does in any Instance exceed a single Generation, is so diametrically contrary to the invariable Experience of Ages, that it is little less than totally incredible.

The question then, is simply this:—if the Male and Female Produce of the Pongo (when it accidentally takes place) with the Women of Angola, are capable of re-producing, they are to all Intents and Purposes, Human. And, in Point of Statute and Bodily Powers, would probably mend the Race.—If, on the Contrary, they cannot re-produce, they are manifestly Mule, and by Consequence, the Pongo Race Brutes.

It may be, I hope, permitted to add that, *if a Doubt exists* of the Pongo being

being human, surely a fair Experiment of *Cross* with a strong healthy Woman of the Country, is too interesting in every Light, either of Advantage or Curiosity, to be omitted.—Independent of his being often nine feet high, his Strength is such, that with a single back Stroke of his open Hand, he has been seen to fell a pretty stout Tree, when desirous of its Fruit. But, if accidentally enthralled or taken, his love of Liberty is such, that it has hitherto baffled all Attempts to keep him alive, by his obstinate Refusal of every Kind of Nourishment.—Thus far my Informer, who was a Gentleman of Veracity, and obtained his Intelligence at Angola, where he continued a considerable Time.

But, that the Pongo is not human, or at least, not Rational, the following Arguments and facts if true, strongly induce me to suspect.—First, the visibly mixed Nature and superior Size and Powers that must necessarily result from the respective Qualities of the Objects of this Cross, when it fortuitously happens,
would

would, probably, if the *Generations* were continued, have, long since established their *human Identity*, for, Mules cannot breed.

—Besides, would they? if Rational, gifted as they are with such Collofseal Powers and Stature, have so long continued, a merely fugitive Race amidst Neighbours so incomparably their inferiors in that respect.—Of their Irrationallity, the following is a glaring Instance. When the Inhabitants of the Country quit those Fires, which they often kindle for culitary and other Purposes, the Pongo Tribe are said immediately to advance and seat themselves round the remaining Embers. But, though an imitative Animal, they were never yet seen to apply the long Staffs they always Walk with, for the renewal of that expiring warmth which they are so evidently fond of.

I cannot forbear relating a pointedly similar Instance of the Want of Reason which I myself observed in a favourite Bitch: who was, yet, uncommonly sagacious in her kind. It may serve indeed, to bring home to every Man's Observation,

tion, the manifest Distinction between Instinct and Reason.—This Bitch, though even naturally disposed to *fetch* any other Thing she was sent for, yet! when in cold Weather uneasy and perplexed between the Desire of Warmth, and the Love of her cushion, and ever whining 'till it was brought for her to the Fire Side, never in a single Instance brought it there herself: nor could be even taught to do it, *as an Object of Interest to herself*, though she would readily, if ordered, lay it at her Master's Feet, in what ever Part of the Room he might direct.

I am a real Admirer of Montaigne, but, in his Instance of the Hound, I cannot but think he begs the Question in Favor of the Rationality of Brutes.—He asserts as a Proof of it that, if, in pursuit of its Game down a Lane which chances to open into three different Roads, the Dog happens to lay his Nose without Effect on two of them, he, without further Tryal, or, to use his own Words, *sans plus marchander*, pursues
C his

his Chase down the third. Now, besides that this truly Laconic Inference would do no Discredit even to the human Race; independent of the pursuit of Prey being the instinctive Profession of his Kind, is it not far more probable? That a very high Scent, from which the sudden Change of Scene had for a Minute diverted his Attention, was in fact the real cause of his Decision.

For the Rationality of the Elephant, it is, I confess, so apparent in many Instances, that, if they are Authentic, one is scarcely justified in doubting of it. But, for Quadrupeds, and Insects of the gregarious kinds; however astonishingly just their Order, and subtile their Contrivance, as it is demonstrably *Innate*, by its specific uniformity in the respective Tribes, I cannot hesitate to deem it merely Instinct.—Every Republic of Bees or Ants, every Colony of Marmots, of Bever, or of Rats, however distant from any other of its Kind, is uniformly governed, and its respective Habitations constructed by naturally inherent

herent and invariable Rules. — The *scratching* of either the Dog or Cat kind, though when it is on penetrable Soil, it obviously tends to bury something, is yet, *in absolute Contradiction to Reason*, equally employed upon a wooden floor, or on a Stone Pavement, if they are reduced to deposit any Thing upon so hard a Surface. And, the very same Actions of raking over it are practiced with both their feet and noses, although, far from having scratched up any Dust to cover with, no Sign even of impression has been made.

The Spider, though so confined from an Egg as never to have beheld a Fly, will yet, weave his Net, and place it with the most *apparent* View of ensnaring that Animal of which, although his Natural Prey, he can have had no *experimental Knowledge*.

C 2

As

* As the late Mr. Hume seems, in his *Essays* to insinuate much upon the Memory and *Experimental Knowledge* of domestic Brutes: it is surely deserving of some Notice. — That they are capable
 of

As I have quoted the Brazilian Parot (deemed by Mr. Lock, not unworthy of his Notice) I cannot help observing that, in addition to the Instinct implanted in every Animal, excepting Man; the feathered Tribe possess, not only the *Biped* Privileges of articulate Speech, and an erect Position, with the transcendent Faculty of traversing the Clouds; but, as is sufficiently manifest from a trite, tho' not a complicate Instance, some *very unequivocal Portion of even experimental Knowledge*.—There are few Persons who have not themselves witnessed the apt Docility of the Goldfinch in drawing water with his

of learning and retaining many Tricks and even useful Lessons, is too obvious not to be easily admitted. But, that this can be justly deemed such Knowledge as is commonly termed *Rational*, I can by no Means grant; since, they are so far from drawing the smallest Inference from it, which might be beneficial to *themselves*, that no Instance is known of their having ever applied it to the *personal* Purposes of either Ease, Security, or Preservation. As the account of the above Bitch and her Cushion, alone, amply testifies. For her *instinctive* Powers, her Memory, and her Fidelity, far exceeded those of any Dog I ever met with.

his Bill and Claw from a little Well suspended to his Cage, and by a Chain and Bucket proportioned to his Strength. —For his Docility, I grant he has it but in common with the Quadruped. But, *for the useful Application he spontaneously makes of this instruction for the supply of his occasional Wants*, it not only establishes his incomparable superiority in the rational line over the Bitch above alluded to, but has likewise, no inconsiderable Tendency to confirm the even genuine Rationality of the celebrated Brazilian Parot.

I will pass over the wonderful Contrivance and inimitable Workmanship of their endlessly varied Nests. The well calculated Propriety and precise Order in which their Flights are Marshalled. And that astonishing Sensibility, whether of Scent, of Vision, or of whatever Faculty, that so infallibly directs their annual Migrations through a Pathless Region of many thousand Miles.—That all this is the mere Effect of Divine Instinct, its wonderful Superiority

Superiority as clearly proves, as its specific appropriation and Inherence in the respective Tribes.

To enumerate half the Instances that might be adduced in Proof of Instinct or *innate Sagacity* would be an endless undertaking. But,—if to have their Minds cultivated (or rather, naturally furnished) to the full Extent of their Capacity, without the tedious Process of Schooling,—to be endued with Knowledge, without the Risque inseperable from Experience.—To enjoy the present, without offensive Reflections on the future.—To be insensible to those humiliating suggestions, that are the invariable Attendants on Consciousness and Comparison ;—and finally to be relieved from the Burthen of Life when its Faculties of Enjoyment are worn out, without the *Pain of Apprehension*, in which our almost oracular Poet declares the Pang of Death principally to consist. If these be truly unalloyed Blessings, they are the happy Lot of the Instinctive Tribes. And an enviable Lot indeed to Man,
did

did not that Reasoning Intellect and Free Will which were imparted to him in Lieu of these temporary Advantages, demonstrably announce, the perhaps endless Reward of their virtuous Application.

Respecting the vegetable Class, I shall barely observe, what must indeed be obvious to every speculative Mind, that it is possessed of one Facultie in common, (in an at least equal degree) with both the merely animal and the most exalted Rational Species.—That of *Assimilation*, by which truly God-asserting Faculty, every Specimen of these three Classes, is alike furnished with the Power of encreasing its Volume and of perfecting its respectively Assigned Form, from a scarcely discernable Embryo, even to the wondrous Beauty and magnitude of the stately Cedar or the enormous Leviathan.—How far the *Coraline Tribe* may be Partakers of the general Properties of *every Class* except the Rational, is an Enquiry which has already called forth the Talents of so very ingenious a Natu-

a Naturalist, that I may safely refer the Reader to Mr. Ellis's elaborate Essay on that interesting Article.

I will now proceed with the adventurous Undertaking I have engaged in, and without being in any sort discouraged by the unsuccessful Attempts of enterprising Philosophers of every Age, in Defence of the Souls Existence, or by the positive Decisions of many of the present, against even its possibility, I here steadily assert, and shall, I trust, be enabled to prove (as far as Argument, Analogy, and Inference can suffice to do it) that the Soul has, not only a real, unequivocal, distinct Existence, but, that it is likewise *Material*, however exquisitely subtilized into what Mankind have universally agreed to term Spirit.

I am, I confess, unable to comprehend how Mr. Voltaire (and the Authors of those detached Essays contained in the three last Volumes of his Works, Geneva Edition, 1775,) could, with any Colour of Consistency have, even derided the Idea of a Future State, whilst

whilst they yet! readily admitted the Existence of the Deity: against which, many of their Objections to the possible Existence of the Soul, militate with at least equal Force.

Since, however, these Writers (whether through Decency, or from the Conviction of their Reason) have, at any Rate admitted Gods Existance, together with his all-powerful Train of Attributes, and that these Attributes must of Necessity involve an ultimate, but inevitable Observance of Equity, as no Motive for its Infringment could, with such Attributes, possibly exist. How could they anywise reconcile with this Equity? That *perishable State*, to which they so peremptorily consign the *Spiritless human Body*. Could they have denied its being originally forced into Existence? Could they have disputed its Subjection to many, often, undeserved Miseries? Had they not felt that Conscience, feeble as it is, and, that the reasoning Intellect exclusively imparted to the human Race, had forcibly demonstrated the general Advantages of Virtue?

had

had their own Passions never manifested to them, their perverse opposition to a compliance with the disinterested Precepts of this Virtue? And could that Reason (of which they on other Subjects possessed so ample a Portion) possibly have failed to suggest to them, that, a successful * Combat with these overbearing

* Although this Essay was intended as chiefly Physical, I cannot forbear inserting one moral Observation on this *Combat of the Passions*.—Nothing can less consist with a *Worldly Trial*, than a Retreat from that Society which was manifestly intended to be the Scene of it. A State of Apathy thus violently procured, appears to me, little better than an Act of premature Death. If the Conduct of our Passions be the real Test of our Merit, neither a churlish Seclusion from their Effects nor even, a total Suppression of them can be right.—Whoever is divested of Sensibility, is necessarily precluded from the possible *Attainment of Merit*.—It is the proper Regulation of the Passions, when they might else counteract the opportunities of Benevolence, or influence the Decisions of Equity.—It is such temperate, yet liberal Indulgence of them, as, by checking Habits of mere Sensuality, will effectually secure not only a Continuance of their Enjoyment, but likewise a Promptness and an Adequacy to every virtuous Effort.—Can we then be too grateful to that

bearing Passions in *favour of Society*, together with the patient Endurance of undeserved Miseries (where that had been the Case) having manifestly rendered them meritorious in the Estimation of this JUST BEING, the Reward of their Success in that dangerous Combat, which was probably ordained as their *earthly Trial*, would be but consistent with the indevi-able Equity of Him who had forcibly imposed it. Or, could they preposterously have conceived, that this God of Equity and Goodness, although amply enabled to have imparted ever flowing Benevolence and Happiness to all the Children of his Creation (by those very Attributes they have themselves allowed him) has rather chosen to let loose upon them those overbearing Passions and that Inundation

that benign Deity? Who has implanted in us *that* for our Trial, which, if properly conducted, is itself a most luxurious, although a temporary Reward.—Such I understand to have been the Basis of genuine Epicurean Morality.

Inundation of varied * Evils under which we

* That a View to earthly Probation was the real *Origin of Evil* I have already sufficiently explained in the *tenth Tract*. And likewise, that it could effect that Purpose on the human Race, no otherwise than by the Impairment of Reason to him, which is *Experimental Sagacity*, and of Free Will: in distinction from the Impulse of that infallible Instinct or *innate Sagacity* which is the Portion of every other Animal.—It evidently appears from the 89th *Idler* of the late Doctor Samuel Johnson, written on this express Subject, that he was unacquainted with the above Doctrine in the Year 1759. And still more so, in his Review of Mr. Soame Jenins's *Original of Evil*. In which he roundly says, that Gentleman, "decides too easily upon a question *out of the reach* of human determination."—Yet, in two Parts of Mr. Boswel's Account of the Doctor's Journey to the Hebrides, two years after I had published it, he seems to have so perfectly adopted my Solution of that important Question, as confidently to deliver it; (for his own, I presume.)—He might indeed have taken from the *Tract* itself, at least two other Solutions, of far more embarrassing moral Difficulties: which I flatter myself with having as effectually surmounted. But, he either apprehended they might clash with that Orthodoxy of which he was so obstinately tenacious; or, he had not really read the *Tract*. But had accidentally taken the Observation from my own Mouth at Sir Joshua Reynolds's, during a little Debate I held upon that Subject, while at dinner,

we manifestly labour, without any *future* Object of Compensation in his View.

But, as such uncandid, not to say blasphemous Conclusions cannot possibly consist with that Equity so universally ascribed to him, and as the Reward resulting from this Alternative, could be bestowed upon the Virtuous, at the expiration of their earthly Toils, *solely* by a Continuation of their Existence in a happier State. Unless they will adopt the cumbersome Idea of a *corporeal Resurrection*, the Existence of a surviving Spirit in those to be rewarded, becomes an inevitable Consequence of the above Concession. For, it is surely less irrational and

ner, with his Friend Goldsmith. *When the Book was actually in the Press.* It was the only Time I ever was in Company with the Doctor: and I remember, he rather roughly, told poor Goldsmith, *to hold his Tongue*, for the Gentleman (he knew not my Name) had given him a very sufficient, I think he said, *Philosophical Answer*. And he ought to be satisfied.—I find a Clergyman of the Name of Donne has likewise adopted the Doctrine, in the fourth Sermon of those published in his Name. For he too is Dead.

and less impious, totally to denie the Existence of a God; than it is, one Moment to dispute his Equity: a Deficiency of which, could be no how paliated by either Want or Weakness in an ALL-POWERFUL BEING. Except they could in the true *Hebrew Principle*, suppose him, like the Jealous God of Moses, cruelly to visit the Sins of Fathers upon their harmless Ofspring. Even to the third and fourth Generation. Or, absurdly to recompence the undeserved suffering of departed Parents, by rewards to their unworthy Progenie.

The Soul then, by the fairest Inference drawn, even from their own Concessions, manifestly exists. And, though I might securely intrench myself under this just Conclusion: Yet, having already determined to engage in a *Physical Proof* of its distinct Existence in the human Frame, it may not be improper to combat that *Physical Objection* on which they most insist—your Hands, say they, and many other Parts, pay a most ready Obedience to your Will, (which we presume

sume is but another Word for your Soul or that Spiritual Portion of you, which you contend for) yet, would its Dictates avail but little, should they be Idly addressed to your Stomach; its Faculties of Digestion being in no sort subordinate to the power of Volition, are Solely dependent on their own good or ill Condition; they neither recognize or obey any Director whatever.

The very utmost that this Argument can tend to prove, is, that some Organs of the human Frame, are evidently more dependent upon our Will than others. But, it by no Means invalidates either the distinct Existence, or the Power of that Will in any Instance where its Exertion could have been expedient or really beneficial to the animal Economy. — In those of Digestion or Circulation, it was, for the most obvious Reasons, necessary, that the Action of the Organs destined to each respective Process should be involuntary. And without mentioning any other, I trust these Gentlemen will grant that, while asleep, and incapable

capable of directing them, the suspension of these Functions had been rather inconvenient.—It is for the distinct Existence of the Mind, not for its unlimited Power, that we contend. And, of its divine Contrivance, there can be no stronger Argument than the amazing Precision with which its varied Degrees of Attention are adapted to respective Functions: for, in every office where Volition must have acted upon inadequate Information, have been too tardy in its Direction, or totally unnecessary; the truly providential Deity has imparted to the respective Organs *themselves*, such instinctive Action as could alone have Suited them.—That our Eyelids are, in general, obedient to our Will, is evident. But were not their Action *likewise*, often involuntary, or were the Valve which so effectually guards the Entrance of our Windpipe during the passage over it, of every Aliment, actuated *only by our Will*, its direction had been in either Case fatally late.

To enquire at what Period of Conception

ception or Gestation the Spirit is united to the Body, is little to the Purpose, could it even be decided.—That it *now* exists, every Man may, by the very act of thinking on it, perceive. And though, we readily admit that Moses took no Cognizance of it whatever in those Laws which he pretended to deliver (as immediately from God) to his miserable People, Yet is Mr. Voltaire certainly in an Error, when he facetiously supposes its *distinct* Existence to be the sole Suggestion of Christianity, since, the most unequivocal Notions of a Futurity (and that, a *spiritual* and distinct one, which could not very consistently have been preached by a Jew, and to a Jewish Audience) have been discovered to obtain in Countries where the Doctrines of Christianity had yet never penetrated.—When this Writer descends to the trite and absurd Question of, *who ever beheld his own or any other Soul*; I know not if I am more enclined to pity his want of Candour, or to censure his wretched Insult on

D

the

the Understandings of his fellow Creatures.—That he should have disputed the Abilities of the Deity to conceal *that* from the *obvious perception* of Man, which, for the wisest Purposes, it was inexpedient for him to be *positively* informed about, is altogether incredible. Nor is this Author or his Associates to be told, that God has benevolently imparted *that* to Man, which, if cultivated with Integrity, amply suffices to the removal of every Cloud in which this Mystery is providentially enveloped.—To the enlightened Minds of such as properly avail themselves of this divine Faculty, and to such only, will the human Spirit be visible; for only such can have deserved, or could indeed be truly gratified with this intellectual Vision.

That the human Soul, (or, a continuation of that Identical Consciousness of Existence which we now possess) will be extended, to the meritorious, in a Future State, is the inevitable Result of Inferences drawn from their
own

own Concessions. And indeed, however clumsily they affect to deny it, they are often reduced (in ironical Compliance with the Formalities of a Religion imposed upon them by the local accident of their Birth) verbally to acknowledge it. But, as their principal Objection is founded on the improbability, that a Faculty so Active, should seperately exist in every Man, without his Knowledge or perception of it; instead of stating and individually refuting the numerous Changes into which they have multiplied this Argument. It remains only to be physically proved, that a Spirit equally Active, may most compleatly pervade our Frame, for any given Time, without manifesting the minutest Document of either its presence, its Entrance, or its Exit.

A most unequivocal establishment of this analogous Fact, will, I trust, in the Course of this Enquiry sufficiently Appear. I now proceed to it, and, without referring the Reader to a preceding Tract, I will, in few words, state

the Heads of that interesting Hypothesis, which I many Years ago delivered to the Speculative World, and on which I ever thought, that the most important Conclusions might be fairly founded, its result was simply this.

1st, That as Organization, *of whatever Kind*, is equally within the Power of the Deity, that of Spirit must, of force, be so: And that, from the Subtily and Activity of its component Parts, it must, when organised be of all others the most coercive.

2dly, That, from the well-known Properties of Air, such a spiritual Agent, would be capable of Contraction or Dilatation, to any conceivable Degree.

3dly, That, from our experimental knowledge of Heat and Light, its pervasive and Dissolvent Powers, would literally have no Limits, but such as were assigned it by the Eternal Organiser.

4thly, That, from the astonishing Velocity of the Sun's Rays, its activity may be fully conceived.

5thly,

5thly, That, from the possible Reduction of almost every Substance, to Vapour, and from the indispensable necessity of that Spirit we call Air, in the process of all animal and vegetable Assimilation and Accretion, it appears highly probable that both Spirit and Matter, are in a mutual and constant State of Conversion, each to other.

6thly, That the same Assimilative Power which can, both in the Animal and Vegetable Species, encrease a scarcely visible Embryo, to the enormous Volume of the Cedar or the Leviathan, sufficiently suggest the Impartability of such a Power, to a Spiritual Agent, as should enable it, by a like Assimilation, either to encrease or contract its Figure to whatever astonishing and irresistible Dimensions its Creator might be pleased to restrict it.

That all this is possible to the Deity, no Man who Philosophically contemplates the many permanent Wonders which he has manifestly wrought, will hesitate one moment to believe. But, as every

every Man is not a Philosopher, I will endeavour, by the Assistance above alluded to, so to elucidate and exemplify the different Articles of this Hypothesis, as to bring their Conception, in a more presentable Form to the immediate View and comprehension of fair and common Reason.

Nothing will more advantageously enable us to prosecute this Undertaking, than analogous Examples, drawn from known and established experimental Facts. Nor indeed, with less Hazard of Deception. For, as they will furnish many visible Instances upon a Scale sufficiently adapted to ordinary Comprehension, so, we may be well assured of their falling so infinitely Short of those wrought by Omnipotence, as to preclude all possibility of Error in our Conclusions.

That the *solidity* of any Substance we are acquainted with, is no impediment to its convertibility into Spirit, is sufficiently exemplified in the Chemical reduction of Gold to such tenuity as
to

to rise in Vapor in the Alembic; or, by its mere Solution in its own Dissolvent; whose Precipitate becomes (from Saturation with the Nitrous Acid) far more inflammable and explosive than even Gunpowder itself. That it is again reducible to its metallic state, is but corroborative of the fifth Article of our Hypothesis.—That the *hardest* Substances are equally reducible to Spirit, has, by the late Experiments on the Inflammability of the Diamond, been placed beyond a Doubt. Nay more, they have been proved to consist of a Phlogiston so entirely pure and penetrative, as totally to pervade the Pores even of Glass, and in one Sense to exceed in Subtilty the Particles even of Light, the Glass through which it was evaporated being Opake.

To object, that an organised and animated Spirit composed of such Materials would, by its combustably active Qualities, be applicable only to immediate and irresistible Destruction, will be but of slight Availment to the pertinacious
Ingenuity

Ingenuity of the Sceptic. A Spirit equally Active, forcible and pervasive, is not only producible by the most simple Process of the Electrician, but it is with like Facility conveyable into our Bodies, which for any given Time may serve it as a common Conduit, with such perfect Security and inoffensiveness as even to elude all Consciousness of its being there.

Shall we then deign a Refutation of Mr. Voltaire's petulant Questions concerning the distinct *perception* of that divine Spirit which, though equally occupying and pervading our entire Frame, is by the Deity so perfectly *concealed and blended in it*, that they have grown up and augmented together from almost invisible minuteness.

The Prévalence and the Deception of Habit, is a further Obstacle to that Demonstration demanded by Mr. Voltaire; and, this Deception is far greater than the unspeculative dream of: as is manifest in the common effects of Vision. For, the Report of every Man concern-
ing

ing the object that he Views; though (from the imperceptible Habits of Calculation and Allowance which he has from his Infancy contracted by the involuntary Corrections of Experience) it be in itself true, or nearly so; is yet, in many Respects widely different from the *real Report* of Nature *on Retina*: in some, the diametrically reverse. And, could a pair of perfect Eyes (without Injury from the sudden unaccustomed Glare of Light) be, at years of Maturity, *for the first time* applied to several Objects placed at varied Distances, nothing is more certain than that the owner of a Case of Eyes *so circumstanced*, would, not only, tell you every Object he beheld was placed upon its Head, with the Earth above it, but, he would perceive such wonderful diminutions of Size from every variation of Distance. As would appear even ridiculously inconsistent with the actual Dimensions of the Objects.

A *Supposition* analogous to this, if fairly stated and considered, however impossible

impossible in itself, would, by an imaginary Counteraction of immemorial Habit, greatly facilitate the Ability of answering Mr. Voltair's Question.—Were it *naturally* possible for a human Being to Exist in mature and perfect State, *without a Spirit*, and that (like the Statue of Pigmalion) it were at once inspired by the Deity with animation; I cannot doubt but, from a Creature thus abruptly compounded, and consequently devoid of Prejudice as of Habits, if it were, likewise, gifted with speculative discernment and Discourse. We should obtain a very satisfactory Answer concerning the Operation, Influence and Effect of his newly received Spirit.

The above is so connected with my Subject that I can scarcely call it a Digression; but, to return to it. Independent of supernatural Operations, are we not ourselves obliged, in whatever Undertaking any violent and expeditious Force is requisite, to call in the Aid of Spirit, spirit too, of our own Production,—

tion.—Do we not? In the Steam-Engine, by the active Mediation of one Spirit, compel a rather heavy Liquid to assume the Form of another: and by forced and continued Alternations of Rarefaction and Condensation, has not even the circumscribed Wit of Man produced, however relatively Course, a beneficial Piece of active Organism, which is now become his primary Agent in many a laborious Process.—Has he not in actual Operation, anticipated my Hypothesis, by his incongruous though useful Imitations of Superior Agency.—Would he rive the solid Rock, or propel the most heavy Substances with a Velocity and to a Distance unattainable by any other human Means, is he not? Again reduced to adoperate the Power of Spirit. And does he not? By the Application of the smallest Spark of Fire, to Combinations of actually *solid Substance*, in one Instance, as by Magic, produce that active Spirit.

But what are these, to the extensive and tremendous Ravages of Wind and Lightning,

Lightning. Yet, even the most powerful Effects of Wind, he can, by confinement and condensation, imitate; as, by the Electric Power, he can produce the other. Both indeed in miniature, sufficiently, however to *Indentifie* their respective Agencies, and to ascertain their undoubted Spirituality.

Let us then candidly acknowledge, not only that Spirit is of all Agents the most powerful, but that, in precise Conformity of Principle, that which is the lightest and most rarified, is in a like Proportion the most coercive. The Sun's collected Beams being, of all others, known to us, the most intensely so.

Since, in the Face of these notorious Instances neither the compulsive Agency of Spirit, nor the sudden convertability of Substance into it, will be disputed; all that can be objected to this Hypothesis, is, that in each of the above Examples, the intervention of some mere *material* Machinery having been found necessary, though the Powers of Spirit
be

be undeniable, yet is it by confinement only, that its Effects can be advantageously applied.

That by *human Means or Ingenuity* Spirit is no otherwise applicable to mechanical Purposes, I readily admit, nor indeed, did I originally propose it as a Material of human Machinery. What I am labouring to establish, is, that its Tenuity or seeming immateriality, far from diminishing its Force, is on the contrary, characteristic of an invariable Excess of it.—In this, surely I have succeeded, and if it be acknowledged that, *to Matter*, its Powers are irresistible, even in the scanty Portions and by the unweildy Means that our best Efforts can devise, of what indeed! must it be susceptible, when organized by the exquisite Contrivance of the Divine Artificer.

To have demonstrated the Adequacy of these rarefied Materials to such powerful, immediate, and extensive Efforts is, in Truth, virtually to have proved them organized; and, organiza-
tion

tion being, *consequently*, found compatible with Spirit of the extreemest tenuity, let us try how far the active Cause of magnetical Effects, of whatever class, may be conformable to this Conclusion.

Every Atom with which our Senses or our Speculations are conversant, excepting Ether, is, demonstrably, under the Influence of Attraction, though by the general Term of Gravity. But, as this Quality is, by some natural Substances, capable of being perverted from its *central* Tendency, and as this power is by several known and easy Processes communicable to others, among which Iron is by far the most susceptible (either in its passive or its active Sense) of this anomalous kind of Gravitation, termed, in this Instance, Magnetism.—Whether this Object of its Influence when excited in a high Degree, be *driven* into Contact with an unexcited bar of that Metal, by some invisible *outward Impulse*, or actuated by an *intermediate Nisus*, who shall determine? But, when I perceive between two unglutinated Bodies, on
their

their approach to each other, an instantaneous Cohesion, equalling a Weight of three hundred Pounds. And when common Sense and my Experience Inform me, that such powerful Effects cannot be produced without the intervention of external Agency: though it be of so exceedingly subtle a Nature as to elude every attempt to Investigation. Yet, am I surely justified by the fairest Parity of reasoning, to conclude that, as the Air I breath, although alike invisible (being from the Demonstration of Experiment, Spongiuous and Elastic) is by consequence, *organized*. So must the acting Power of Attraction, manifestly be, although the specific Manner of its organism have not yet received the irradiating Beams of that universal Elucidator Experience.

Admitting these Conclusions to be, as I sincerely think they are, fairly drawn, we have here, an incontrovertable Instance of exceedingly active (although invisible Organism) totally free from any Dependence on the Confinement of enclosing

closing Machinery.—For its coercive Powers, I refer every one who is conversant with the *Compound horseshoe Magnet*, to the mere Evidence of his Eyesight. And for the astonishingly extensive Influence of Gravitation, in its general Sense (which is undoubtedly actuated by a Similar Principle) the Reader has but to consult the *Principia* of the truly enlightened Newton. Where, he will find that Influence to reach (by an almost inconceivable Concatenation of Spiritual Organism) not only, from this terrestrial Globe to that of the Sun, a Distance comprehending *eighty-two Million of Miles*, but, to be likewise, expanded, throughout the whole Planetary System. Each individual Orb of which, is demonstrably actuated by this Attractive or gravitating Principle, in an ascertainable Proportion to the respective Volume and distance of the other Planets.

This single Instance of an invisible organized Spirit whose Extent and Powers, however vast, are yet established, not by the bare *Ipse dixit* of Sir Isaac Newton,
but

but, by the precise correspondence of Calculations resulting from the Distance, Magnitude and Revolutions of the respective Planets; is, notwithstanding our Ignorance of its Mode of Acting, alone sufficient to convey some Idea both of Omnipresence and Omnipotence.

That Attractive Organism, though probably similar in its general Principal, is yet variously modified and specifically appropriated, is evident even to our limited Knowledge of it, in the three Examples of Gravitation, Magnetism, and Electrical Attractions. Independent of that, which is common between Capillary Tubes of whatever Composition, and the Liquid of whatever Kind, that is placed in Contact with their Extremities.

By whatever incomprehensibly active Power the Rays of Light are propelled from the Object where they are generated (and that they are so from the Sun's Orb to ours in the very inconsiderable space of eight Minutes is sufficiently notorious,) the excessive Velocity

locity with which they rebound from such opake Substances as they are not calculated to penetrate, clearly, by their Elasticity, establishes their Organism.— That Rays of Light are *individually* condensable, or only collectible into a Point by Refraction and Reflection, would be an Enquiry little to our Purpose, even if the short duration of their *luminous* Existence did not preclude the possibility of its Investigation. But, for their wonderful Tenuity, both their Passage through the dense Body of Glass, and the little Injury with which (notwithstanding their prodigious Velocity) they are received upon our Bodies, amply evince.

Before I proceed further in this Enquiry, I will again Venture to repeat my Supposition that, the Elements of which these wondrous Agents were originally composed, have, however inconceivably! Arisen from that infinity of, till then, unconnectible Etherial Atoms which had from all Eternity floated in the boundless Regions of obscurity.
And

And that they now, by the first Creative Act of God's inherent Omnipotence, received, together with their Organism and Aptitudes to Material contexture, their *Physical Existence*. And, as I am inclined to trust that the Sagacious Reader is, by this time, somewhat familiarized to the Idea of Spiritual Organism, and its irresistibile Powers, it may be neither inexpedient to the Progress of our Speculations, nor fallacious in the way of Argument, both to indulge and to state such consequently occurring Conjectures, as, if even distantly approaching to the Truth, may facilitate our Conceptions of the Actual Fact.

It is surely nothing derogatory to Omnipotence to admit that, in erecting the vast Fabric of the Universe, the Agency of Spiritual Beings of his own Creation might have been employed: (however exclusively personal the creation of the Elements) nor is it inconsistent with the Variety of all *Visible* Creation, to suppose the Powers of these wondrous Agents widely different from

E 2

each

each other, both in Discription and in Extent.—In the Front of the least exalted Class may well be numbered four, which, though widely differing in their Properties, and perhaps in their Extent are yet alike important.

The subtile Spirit of Attraction may deservedly take the Lead, since (in its various Modifications) it pervades the universal planetary System, and, by its active operation (throughout that astonishing Space which is the scene of its Rotatory Progress) in some Instances connects and regulates the various Detail of each individual Orb, in others, by its unremitting Mediation, counterpoises, actuates, and I had almost said, animates the whole.

After this, may well be placed the Air, that pleasing and universal *Pabulum*, which, as it seems the necessary Aliment of all Things, is, in its Turn reproducible by every Substance whatever.

Light may be thirdly ranked, the offspring of Fire, if not a milder Fire itself: which besides the genial Warmth
and

and the delightful Benefits of Vision, that it was so benevolently calculated to diffuse throughout the Universe, serves likewise to concoct and liquifie that Substance which had, without its Aid continued in the Form of Ice. And could have administered its Assimilating properties neither to Life nor Vegetation.

Fourthly the Electric Spirit, which, by the often perilous, Vigour of its tremendous Conquassations, and by the rapid Distribution of its deobstruent and active Particles, serves probably as an occasional corrector of that else stagnant and torpid Tendency, which the heterogeneous admixtures and the unremitting Nifus of the forgoing Spirits might have been else obnoxious to.

There are perhaps many other Spirits of this merely ministerial Species, yet undiscovered, but, for these, nothing can be less equivocal than their Existence. — That three of them have the property of pervading every Substance whatever, and that they are all four Capable of at once existing in the same Space or Vessel,

Vessel, without Impediment to each other, naturally leads to the Contemplation of such higher Orders of Spiritual Being, as, when composed of all these Active Materials, and gifted, by their Creator with assimilative Powers and rational Intellect in a Degree proportioned to their destined Agency, would be adequately Suited to the Construction even of Worlds.

By Assimilative Powers I would be understood to mean, not barely the Accretion or Augmentation of their Volume by whatever Quantity of all or either of the above Spiritual Materials, but likewise the *Excretory* Faculty, of instantly discarding whatever quantity they had assimilated of either, and, in whatever Form or Substance these *notoriously convertible* Materials* could, by the coercive

* A simple but sufficiently extensive Instance of these Faculties even in unanimated Spirit, is perpetually presented to us, in the immense Volumes of Water hourly extracted in Vapour from the Ocean, and transferred in the Shape of Hail, Snow, or Rain, to such Regions of the Earth as must, without this providential Agency have been parched up, useless, and uninhabited.

coercive Faculties of such Superior Agency, be wrought and moulded into. And, when we every where perceive these properties existing (with however slow an Operation) in the whole animal and vegetable Tribes, and *naturally* Changing their Figures and Augmenting their Volume from, even, the minutest *Germ*, to the most enormous Magnitude. Surely the Transfer of some analogous Process, however rapid and extensive in its Effects, to such intellectual Spirits as were adapted and organized to these express Purposes by their Creator, is too consistent with the strictest Parity of Reasoning to put Imagination to a Moments Effort.

If Analogy may be our Guide, we are fairly justified by all we can discover in the Nature of inanimate Spirit, to suppose that even when animated by the Deity, it is still subjected to the *actual Necessity of some Species of restorative Assimilation*, independent of the extensive Faculties above alluded to. For, we are conversant with no Spirit whatever,

ever, that can long subsist without Refreshment or Renewal.—Even Air, the apparent *Pabulum* of every other Spirit, being itself of so impermanent a Nature, as to be impairable in its elastic Powers, by mere Confinement in a well closed Vessel, if it be of any considerable duration.—Yet, that a Physical Sufficiency to their own Existence may be allotted to the varied Orders of intellectual Spirits, in a Degree proportioned to their respective Powers, Purity, and Exaltation, is I think, highly probable; but, that the DEITY ALONE perfectly suffices to himself, in this, as in all other Instances, is the clear result of every Argument that Imagination can possibly suggest.

That one Species of Spirit may maintain a distinct Existence in another, without Risque of being lost or *blended with it*, the protracted one of Flame in its surrounding Medium of Air, most manifestly proves. As does the Spirit of Ferruginous or Magnetic *attraction*, which though encompassed by a Medium that, besides

besides being of a similar Nature with itself, is of Force sufficient to be the Aduator and Controller of Worlds, yet serves, by its powerful Example of *partial and local Efficacy* (even under these Circumstances) clearly to suggest one, among the many possible Modes of invisible *Superior Agency*. And, for rapid Dilatations, instantaneous Contractions, and the most sudden and unequivocal *change of Substance*, if the Nitrous Explosions and the Condensing Process of the Steam Engine fail of enforcing the most convictive Analogie, we must be perverse and sceptical Indeed.

Should the Delicacy of some over-nice Philosopher be anywise alarmed by the above *Excretory Faculty*, let him but reflect upon the Origin of those filken Ornaments so extensively enjoyed by the most opulent and elegant of every civilized Nation; nor need I add that documental Instance of treple Transformation which is so very aptly suggested by the poor Worm that is its Parent.

But, in the Spiders inimitable Parallels,

lels, we have a yet more suggestive Instance of this wondrous Faculty. Here, when we discover how very amply he is furnished (from those Materials he had so lately assimilated to his own Frame) with the Means of founding, not only the spacious Mansion he shall inhabit, but of widely spreading his powerful Toils for the Ensnarement of his future Prey. When we, contemplate in this extraordinary Specimen, the subjective Powers and amazing Transmutations attendant on the, even, natural Effects of Assimilation and *Excretion*. And when we unite to this, the mutual convertability of Spirit and of Matter, with the astonishingly coercive Properties of the first; may we not from this Example, (which seems with many others * ordained, but, for our Instruction)

* That the Contrivances and the Fabrications of the instinctive Tribes, had (besides the very important Inferences they give rise to, and many other providential Views) *that* of Mans original Instruction, I cannot doubt. For, as the human Race

Instruction) easily conceive that, to
analogous Powers vested in a Spiritual
Being

Race are fairly proved, by Mr. Locke, to be without innate Ideas: So, there is scarcely any Knowledge necessary to Man's Preservation or Convenience, which may not be collected from one or other of the instinctive Operations.—While the preceding Sheet is actually at the Press, I am both flattered and pleased to find, by a Passage in poor Johnson's *Rasselas* which had escaped my Attention twenty Years ago, that nearly the same Idea had occurred to him. “*It has been the Opinion of Antiquity, said Imlac, that human Reason borrowed many Arts from the Instinct of Animals.*”—But further, though in the human Race Knowledge be attainable *solely* by Experience, Analogie, and Inference, and through the mediation of the five Senses, yet, that this is far from being its only Passage or means of Access into the Mind, instinctive or *innate Sagacity* (though in the Brute Creation) sufficiently evinces. For, that neither the apparent Ingenuity of their respective Fabrics, nor the astonishing Address with which they are constructed are the Result of Experience, has been already demonstrated.—It therefore manifestly follows that, Knowledge being in a thousand Instances evidently impartable to the *Mind immediately*. And without the Intervention of the corporeal Senses, the only specious Argument of the Atheist and *Ante-Animist*, is hereby most effectually invalidated.—It is in this View that I have appealed so often to the unvarying Identity of specific Instinct.

Being (if they were unrestricted) all the Elements in Nature would be subser-
vient: and, if we again consider this
little Insect extending his Sensations and
his means of Intelligence by the Medi-
ation of tremulous Lines (alike result-
ing from his own *animal Resources*)
may we not? by an imaginary Transfer
of this Faculty, enlarged by the most
obvious suggestions of analogical Specu-
lation, easily attain to Ideas little short
of Omnipresence and Omniscience.

As *Cicero*, in his Enquiry *de natura
Deorum*, comprises every Thing relative
to that important Subject, in the Stoic
and Epicurean Doctrines, and in the
Academician's Comments on them: it
may not now be foreign to my Under-
taking, to consider, at least, the leading
Principle of each: with the most con-
clusive Observations of the latter, as
probably conveying the genuine Opi-
nions of *Cicero*.—Varying from my Au-
thor, *only*, in an Adherence to the
Unity of God.

The first Speaker, *Velleus*, could not,
as

as an Epicurean, consistently, advance any other Argument for the Existence of the Deity, nor indeed, a stronger, than, that every Nation of the, then known World was invariably of that Opinion: And, that, what every Man agreed in, must necessarily be true.— So far, I myself readily admit: not, however, for the Reason *he* assigns, viz: the *natural inherency* of that general Opinion. But, because, *the same* invariable return of Seasons, *the same* permanent Identity of Species with their respective Instincts, and many other providential Phenomena, being as universal as that human Intellect which almost involuntarily draws its Inferences from them; the *same Conclusions* of, a *supreme Director*, must be of force *every where* the Consequence.

For *Velleus's* Objections to that laborious, unremitting Watchfulness ascribed to the Deity by the Stoics, I confess I am by no Means so offended with it, as in *this part of the Oration*, *Cotta* affects to be. Nor can I think there is
much

much either of Dignity or of Consistency, in the merely Ministerial Office that both the antient Stoics and the modern Clergy, seem determined so illiberally to *assign* Him—I have already given what I think sufficient Reasons for this Opinion, and indeed, when we reflect on the Existence of unnumbered Worlds besides our own, and that *they* may likewise be the *probatory Stations* of a proportional Number of Inhabitants, surely, there is more Dignity, more Consistency, and at least as much Equity, implied, in passing condign Sentence upon the whole, on a *retrospective* View of their Individual Merits, than in the dull and unremitting Prospect of human Actions, in their miserable Detail.

For the personal Beauty of the Deity, which he Idly compares to that of Man: It is the obvious Result of merely popular Prejudice, and as such, is ridiculed by *Cotta* with all the Wit that *Cicero* could dictate on so very wretched an Occasion.—In Truth, nothing can be more arrogant than, *any*
how

how to Personifie the Deity. Nor so absurd as to assign any Figure whatever to *Omnipresent Spirit*. The formation of the Universe, from a blind jumble of Atoms ! is scarcely more so.

Were I to enumerate all the Stoical Opinions that are in this Debate reprobated or defended by these two Opponents : It would be but encreasing the Volume of my own Tract, by a translation, or a transcription of *Cicero's*, who seems to have amassed all the exploded Opinions he could collect, for the sole Purpose of submitting them to the pointed Ridicule of *Cotta's* Wit. The unequivocal Result of *Balbus's* Oration is, to inculcate that, not only the World which we inhabit, is a Deity, with the Sun, and every individual Orb of the Planetary System. But likewise to assign Divinity to every fixed Star in the Firmament : And to support this absurd Doctrine by a most laboured and surely, tedious Train of scarcely specious Sophistry. But, as there is, *however*, a Sentence near the
End

End of this Oration, which, *virtually*, revokes the whole, it cannot but be interesting to transcribe it.

Principio ipse mundus, Deorum hominumque causa factus est: quæque in eo sunt omnia, ea parata ad fructum hominum et inventa sunt. Est enim mundus, quasi communis Deorum atque hominum domus, aut urbs utrorumque.—What is most extraordinary is, that this is passed over by *Cotta*, without the least Notice whatever. But, as I presume *Cicero's* actual Opinion, is to be rather sought for in the *Academician's* Resutations and in his Remarks, than in the *last evasive Line of his Essay*, I will, likewise, transcribe two very interesting Paragraphs of *Cotta's*.

After quoting numbers of Instances, in which the most worthy Men had suffered for want of the Deity's timely Interference, and as many more, wherein the most sacriligious and abandoned, had yet, ended their Days happily. Least (I presume) the *Mosaical Mode of Punishment* should be objected to him
as

as still in reserve. He adds: *At Deo ne excusatio quidem est inscientiæ: Quem vos præclare defenditis, cum dicitis, eam vim Deorum esse, ut, etiam si quis morte pœnas sceleris effugerit, expectantur eæ pœnæ à liberis, à nepotibus, à posteris. O miram Æquitatem Deorum! ferretne ulla civitas latorem istiusmodi legis? Ut condemnatur filius, aut nepos, si pater aut avus deliquisset?* —And again, alluding to the Destruction of Corinth and Carthage. *Hi duos illos oculos oræ maritimæ effoderunt: non iratus alicui, quem omnino irasci posse negatis Deum. At subvenire certe potuit, et conservare urbeis tantas, atque tales. Vos enim ipsi dicere soletis, nihil esse, quod Deus efficere non possit, et quidem sine labore ullo: Ut enim hominum membra nulla contentione, mente ipsa, ac voluntate moveantur, sic numine Deorum omnia fingi, moveri, mutarique posse. Neque id dicitis superstitiose, atque aniliter, sed physica constantique ratione: Materiam enim rerum, ex qua, et in qua omnia sint, totam esse flexibilem, et commutabilem; ut nihil sit, quod non ex ea quamvis subito fingi, convertique possit. Ejus autem universæ fœdricem, et moderatricem*

F
divinam

divinam esse providentiam. *Hanc igitur, quocunque se moveat, efficere posse quidquid velit. Itaque, aut nescit quid possit, aut, negligit res humanas, aut, quid sit optimum, non potest judicare. Non curat singulos homines, non mirum: Ne civitates quidem. Non eas? Ne nationes quidem, et genteis. Quod si has etiam contemnet, quid mirum est, omne ab ea genus humanum esse contemptum?*

By the Passage from *Balbus*, it appears evidently that the Stoics might be reduced by Argument, though with some Reluctance, to abandon the gross Idea of the material Word's Divinity. And by part of *Cotta's* Remark, it appears as plainly that, under the Appellation of *Divine Providence*, they, virtually, acknowledged the unity of God. Although in Respect to popular Prejudice, and in Compliance with long established Forms, they evaded as much as possible the Confession of it. By affecting both to personify and to multiply their Deities. And though *Cotta* in his Answer to *Velleus* affects to smile at the inactive Gods of *Epicurus*, yet is he, himself, in the End reduced, both, candidly

didly to confess and to exemplify in at least twenty Instances, their total inattention to every human Concern. By which Concession, he actually differs in nothing, essential, from *Velleus*, except in the original Formation of the Universe.

Hence, as I at first asserted, it fairly follows that, by the annexing of *Probation* to *their* Systems (as thus reconciled) with Free Will, which is so essential to it, and that impartiality, mis-termed by *Cotta* Inattention, and likewise, the *unrestrained Influence of worldly Evil* (in default of which, no temptation to Error could possibly Exist,) these adverse Sects might be, not only, rendered compatible with each other, but, their religious Opinions might be nearly brought to quadrate with what I sincerely think the only unassailable and sound ones, those of RATIONAL THEISM. —Nor can I doubt but, if the Antients had been aided by the Discoveries I have alluded to, they would, long since, have established the most intelligible Notions of Spirituallity. And would have been enabled to convey the most clear Ideas of
that

that Omnipotence which was so implicitly admitted by the Stoics.

Without trespassing upon the Patience of my Reader, by a tedious Recapitulation of the various Powers of Spirit, or of that most incomprehensibly coercive one? Attraction.—When we consider that, though it is of a Subtility, perhaps exceeding that of Light, its Influence is, yet, extended with demonstrable and unremitting Energy and Effect, throughout a Space of eight hundred million of Miles: And over Bodies of a magnitude near ten thousand Times surpassing the Globe that we inhabit: Can we be possibly at a Loss for Ideas of Omnipresence?—And when our Contemplations are still higher raised, to the exalted Powers of that Divine Artificer by whom this Spirit was ordained but as an Engine, a mere unanimated Agent! What? Short of Omnipotence is the Result?—Nay, should we be tempted to aspire at a rational Conception of even the first great Act of *Elementary Creation*, when, BEING ALONE EXISTING, some Plea might be, indeed, alledged for the laborious Office

fice assigned Him by the Stoics.—The convertive and discriminating Phenomena attendant on the *Fermentative Process*, however, in themselves trite, aided by the foregoing *Data*; would be alone sufficient to Suggest some glimmering Idea, of this astonishing Event. And we might almost (with the sublime Poet) figure to our adventurous Imaginations how the all-procreative Spirit of the Deity, having by one boundless Act of Expansion, pervaded and entirely occupied the infinity of Space, “*sat brooding on the vast Abyss and made it pregnant.*”—With that universal and investive * Contact, from which, no degree of comminution could protect, with that plastic and coercive Pressure, to which no Atom could be insensible, and *perhaps*, by the parental Impartment and Commixture

* When we consider that the Electric and Magnetic Powers are communicable by the bare *superficial* contact of inanimate Substance, can we one Instant? Hesitate to conceive the irresistible Effects of Omnipotent Spirit thus intimately blended (if I may so express it) with that *formless Ether* which it had destined and selected, and was now actually compelling into *Physical Existence*.

of some qualifying Portion of his own eternal Essence.

That, when the Elements were once produced, their respective Organism assigned them, and the great primary, unanimated Spirits composed: The Deity should have *then* created *Intellectual Agents*, who, by the occasional *Affimilation* of these Materials could assort, convey, arrange, and (by an Operation analogous to that natural Excretory and Fabricatory Power already instanced) deposit them in such Forms as were by the DEITY previously devised, is by no means difficult of comprehension. And whether, when the Universal Fabric was compleated, its component Parts might be *themselves* respectively endued with Properties adequate to the permanent Maintenance and Supply of its infinitely varied Members: or, whether, it be subjected to the unremitting Superintendence of Intellectual Spirits; through whose ministerial Mediation, the Deity is, still, virtually Omnipresent; is what must remain, in this Life, an impenetrable Mystery. But, which ever, or whatever be
the

the Fact, the *Seceſſion* of the Deity from ſuch manifeſtly unneceſſary Attentions, is no more incompatible with Eternal Bounty and Omnipotence, than the total Prohibition of his Miniſterial Spirits from all Interference whatever with ſuch accidental Effects, as the Evils conſequently attendant on a *Probatory State* muſt of Neceſſity produce, accounts moſt rationally for that EVIL'S ORIGIN.

Thus we may perceive, the ever conſiſtent Deity, far from having manifeſted a Partiality, by the alledged Adoption of a depraved and loathſome People: Far from having deſcended Perſonally to dictate, not only their Laws, their Prieſtly Trappings, Ceremonies, and bloody Sacrifices, but even the fullſome Detail of their moſt private Conduct, under unjuſt Penalties, and ſuch Rewards as to any other Nation had been diſgraceful.—Far, indeed! From having deigned to be himſelf the imperfect Blazoner of his own transcendent Attributes: Has, on the contrary, by the Providential Ordainment of countleſs ſpeculative Phænomena, virtually

tually invalidated all such derogatory Traditions. Well foreseeing that, under the Contemplations of that Reasoning Intellect which he had so benevolently imparted to the *whole human Race*, they would be, *alone*, amply productive of every *Inference* that could any how tend, either to the Suggestion and Establishment of *Moral Precepts* to the Demonstration of his invariable Equity, or to a rational Conception of his **ETERNAL BOUNTY AND OMNIPOTENCE.**

26 MR 59

F I N I S.